Multiple-Purpose Watershed Projects

Under Public Law 566

United States Department of Agriculture

PREPARED BY Soil Conservation Service

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Experience in hundreds of localities demonstrates that multiple-purpose small watershed projects are an effective means of dealing with land use and water resource problems, of improving the quality of life in both rural and urban America, and of balancing our future national growth.

Since 1954, when the Watershed Protection and Flood Prevention Act (Public Law 566) was enacted, many rural and urban communities have shown that they can curb soil erosion and excessive water runoff, reduce destructive floods, improve drainage on land in agricultural production, provide for more efficient irrigation, supply water for growing municipal needs, attract new industries, enhance fish and wildlife resources, and provide developments for recreation.

Small watershed projects protect, manage, improve, and develop the water and related land resources of a watershed up to 250,000 acres in size.

A project is planned and carried out jointly by local, state, and federal agencies with the full understanding and support of a large majority of the landowners and citizens of the community.

It can include many purposes: Watershed protection to protect the soil resource base, conserve water, protect water quality, and reduce sediment damage; flood prevention; agricultural water management—irrigation, drainage, and rural water supply; ground-water recharge; water-quality management; control of agriculture-related pollution; municipal and industrial water supply both for present and future use; recreation; and fish and wildlife habitat development.

It is based on (1) local initiative and responsibility, (2) federal technical, cost-sharing, and credit assistance, and (3) state review and approval of local proposals and opportunity for state financial and other assistance.

It is a combination of land treatment, nonstructural, and structural (dams, levees, grade-stabilization structures, etc.) measures to enhance environmental quality, maintain the resource base, and improve economic and social conditions in watersheds.

A small watershed project provides for resource development and helps to solve resource problems that are too big to be adequately addressed by the soil and water conservation work of individual landowners and not big enough to require action on the scale of large federal and state projects for water resource development in major river valleys.

The Soil Conservation Service (SCS) of the U.S. Department of Agriculture has primary responsibility for carrying out the program with assistance from local, state, and other federal agencies.

Facts about multiple-purpose watershed projects—how a community gets a project started; how projects are constructed, financed, operated, and maintained; what the Federal Government does; and what the local people do—are on the following pages.

Getting Started

An application for federal help in developing and carrying out a small watershed project can be submitted by any local organization having authority for such activities under state law. These organizations include soil and water conservation districts; municipalities; counties; watershed, flood-control, conservancy, drainage, irrigation, or other special-purpose districts; and irrigation and reservoir companies, water users' associations, or similar organizations not operated for profit.

Indian tribes or tribal organizations, state agencies, and qualified local organizations can sponsor or cosponsor an application. Other organizations can endorse a project application.

The application includes (1) the name, size, and location of the principal tributaries in the watershed; (2) description of the land and water problems; (3) details about the work needed, including the anticipated environmental impact; (4) information about the sponsoring organization and its source of funds; and (5) comments from the state agency that coordinates federal assistance.

Application forms can be obtained from the state agency designated to approve applications for assistance (see list, p. 13) or from the Soil Conservation Service. Completed applications are sent to the designated state agency.

If the state agency disapproves the application, there is no further action. If it approves, it sends the application to the SCS state conservationist, who acknowledges receipt of the application. Further action depends on the availability of planning help and the priority recommendations of the state agency.

When SCS is able to furnish planning assistance, it asks the state agency to consider all unserviced applications in the state and to recommend those next in line for help. Each state agency has established criteria that must be met before an application is awarded a high priority rating. If an application meets the following conditions, it will satisfy the criteria of most states:

- Sponsoring local organizations have the legal authority and will use it to meet their commitments for carrying out and maintaining the project.
- Help is desired to achieve multiple-purpose development of the water and related land resources of the watershed.
- Material progress has been or is being made in applying soil and water conservation measures on individual farms and ranches.
- The proposed project will benefit a substantial number of people through improved resource use that will permit higher standards of living and a wider sharing of life's amenities in watershed areas and will help bring about the redistribution of the nation's growing population.
- Interest in, understanding of, and support for the project is prevalent throughout the watershed.

Certain states, however, may have special criteria. By working closely with their state agency, local organizations can find out what they must do to obtain a high priority rating.

After a watershed has been rated high priority by the designated state agency, SCS conducts a field examination of the watershed to determine the potential for an acceptable watershed plan, the probable alternative plans to be investigated, and the probable impact of each alternative.

After the sponsors hold a public meeting to determine the sponsor's and public's interest, the SCS state conservationist prepares a plan to study the watershed in detail. When he thinks that he will be able to furnish planning assistance, he requests the SCS Chief to authorize such help. Ordinarily, planning help is authorized for a number of watersheds once a year. Upon authorization, the SCS state conservationist will make personnel available to start preparing a watershed plan.

Planning the Watershed Project

An SCS watershed planning staff composed of engineers, hydrologists, geologists, economists, and other needed specialists is assigned to work with the local SCS representative to make environmental assessments and help the sponsoring organization(s) develop a watershed plan. The Forest Service also assists. The Farmers Home Administration (FmHA) works with the local organization when it wishes to obtain a watershed loan. The Fish and Wildlife Service and the state game and fish agency make studies relating to the impact of the proposed project on fish and wildlife resources. The National Park Service may help in connection with recreation developments. SCS notifies other federal and state agencies of the studies and invites them to participate.

Findings are reviewed with the local organizations at progressive stages of planning. A draft plan is prepared that sets forth (1) the land and water resource protection and development measures proposed; (2) the cost of the proposed measures and cost-sharing arrangements; (3) the benefits; (4) the methods and schedule for installing and maintaining the measures; (5) a description of alternatives considered and why they were discarded; (6) the environmental impact of the project; (7) the provisions for land acquisition and displacement of any person, business, or farm operation; and (8) comments from the state agency that coordinates federal assistance.

Goals of Watershed Projects

Erosion Control

Structural measures for flood control cannot be fully effective unless soil and water conservation measures are applied on individual farms and ranches, other rural land, public lands, and critically eroding areas of the watershed.

For this reason, either the law or Department of Agriculture policy requires as a condition for providing assistance for structural measures that—

- One-half of the land above floodwater-retarding dams and retention reservoirs be under basic conservation plans;
- At least one-half of the land above floodwater-retarding dams and retention reservoirs be adequately protected from erosion;
- Not less than 75 percent of the needed land-treatment measures be installed or their installation provided for on those sediment-source areas that are a serious hazard to the design, operation, or maintenance of any structural measure; and
- Installation is assured of on-farm practices needed to realize benefits from any structural measure for drainage or irrigation.

The basic conservation plans are the same kind that farmers, ranchers, and other landowners develop and carry out with technical help through soil and water conservation districts.

Flood Prevention

Flood prevention measures in watershed projects include land-stabilization measures to prevent the destruction of land and thereby to reduce the movement of damaging amounts of sediment to stream channels and lower land. Large gullies and severely eroding land may be brought under control with vegetation or structures. Road banks and fills may be protected. Waterways crossing two or more farms may be improved by shaping and planting. Trees and other vegetation needed to keep the soil tied down may be protected from fire.

When exceptionally heavy rainstorms sweep across a watershed, however, runoff may be great even from conservation-treated land. This is especially true if the soil is already saturated or is frozen. Flood prevention, therefore, also includes both nonstructural and structural measures for flood-plain management to reduce the damages this surplus water causes to groups of landowners, communities, and the general public. Structural measures include dams to retard floodwater, channel improvement, levees and dikes, desilting basins, floodways, floodwater diversions, and special water-holding or water-diverting terraces and dikes. Nonstructural measures include zoning or other regulatory actions, land acquisition, relocation, floodproofing, and flood warning systems.

Agricultural Water Management

Agricultural water management measures that can be included in watershed projects are those for irrigation, drainage, and supply and distribution of water for domestic and other agricultural uses.

The irrigation measures may include water-supply reservoirs, diversion dams, pumping plants, sluiceways, canal headworks, canal laterals, and main distribution pipelines to carry water to the farm boundary. They also may include lining canals and sealing storage reservoirs, and measures needed to conserve and use water supplies efficiently and to convey water with the least practical loss.

The drainage measures include all parts of a group drainage system, such as open ditch or tile, drops, checks, flumes, control gates, manholes, and pumping plants.

Help may be given to provide more uniform supply and distribution of water for agricultural use to two or more landowners. These measures will be designed to make annual streamflow more stable, to increase the recharge of groundwater reservoirs, and to distribute on a community-wide basis water for livestock and other agricultural purposes.

Public Recreation Development

Developments that create or improve facilities for the enjoyment of outdoor recreation based on the use of or proximity to water in reservoirs, lakes, natural streams, or along shorelines can be included in watershed projects. Such recreation uses include fishing, hunting, swimming, boating, water skiing, picnicking, camping, and related activities.

A watershed recreation development can include (1) a single reservoir, a single lake, a single reach of shoreline, or a well-defined reach of a single perennial stream (but not the entire stream system of the watershed); (2) land required for public access and public use; and (3) recreation facilities such as roads and trails, parking lots, public water supply, sanitary facilities, power facilities, beach development, boat docks and ramps, plantings and other shoreline or area improvements, and picnic tables and fireplaces.

To be eligible for cost sharing, recreation developments must be open to the public. Cost sharing will be provided for one development in a project of less than 75,000 acres, for two in a project of 75,000 to 150,000 acres, and for three in a project larger than 150,000 acres.

Public Fish and Wildlife Development

Water-based developments to improve fish and wildlife habitat can also be included in watershed projects. These may involve added storage capacity in reservoirs to regulate streamflow, modification of reservoir structures for releasing cold

water, channel improvement, and marshes and pits to provide breeding and nesting areas for migratory waterfowl and aquatic mammals.

Municipal or Industrial Water Supply

To improve economic and social conditions in watershed areas, developments for supplying water for municipal or industrial use should be included wherever feasible. Storage capacity in reservoirs may be planned for present or future use. Pipelines conveying water from a reservoir or stream to a filter plant or distribution system may be included.

Watershed Plan Approval

SCS reviews the draft watershed plan-environmental impact statement (plan-EIS) for technical adequacy and conformity with legal and policy requirements. The sponsoring local organizations and SCS jointly conduct local reviews, including at least one public meeting, and an interagency review by federal and state agencies. After resolution of comments, the final plan-EIS is prepared and is signed by all the sponsoring local organizations.

If the plan-EIS does not include any single structure exceeding 2,500 acre-feet capacity and does not involve a federal contribution to construction costs of more than $5.0 million, the SCS Chief can approve the plan-EIS and authorize the federal assistance proposed. If, however, the plan-EIS contains provisions that exceed either of these limitations, it must be approved by Congress. SCS submits the plan-EIS to the Secretary of Agriculture, who transmits it to the Office of Management and Budget (OMB). OMB reviews the plan-EIS and sends it to the Congress for consideration by the appropriate committee.

The Committee on Agriculture, Nutrition, and Forestry of the Senate and the Committee on Agriculture of the House of Representatives review plans that involve structures with no more than 4,000 acre-feet of capacity. The Committee on Environment and Public Works in the Senate and the Committee on Public Works and Transportation in the

House of Representatives review plans that involve structures with larger capacity. These committees may hold hearings on the plan and may request testimony from representatives of the local organizations.

If Congress approves the plan, the SCS Chief authorizes the federal assistance specified in the plan when funds are available.

Financing the Project

The SCS Chief allocates funds for watershed projects from money appropriated each year by the Congress. Priority is given to the allocation of funds for technical assistance and engineering services. Funds for construction are allocated according to the readiness of local organizations to install, operate, and maintain the planned measures.

Cost Sharing

Nonfederal Costs.—Local organizations or individual landowners pay the following costs:

- Part of the cost of installing land-treatment measures on nonfederal land.
- Acquiring all landrights except landrights for public recreation or fish and wildlife development. These costs include removal, relocation, or replacement of bridges, roads, pipelines, buildings, fences or wells, whether done by the local organization or by the owners.
- At least 50 percent of acquiring landrights for public recreation or fish and wildlife development.
- Acquiring water rights.
- Administering contracts on nonfederal land unless work is done by federal contract.
- All construction not allocated to (1) flood prevention, (2) agricultural water management, (3) water-quality management, and (4) public

recreation or fish and wildlife development.

- At least 50 percent of construction allocated to (1) agricultural water management and (2) public recreation or fish and wildlife development.
- Engineering and other installation services not allocated to (1) flood prevention, (2) agricultural water management, (3) water-quality management, and (4) public recreation or fish and wildlife development.
- At least 50 percent of the engineering and other installation services required for minimum basic facilities for public recreation or for fish and wildlife development.
- Operating and maintaining works of improvement on nonfederal land.
- An equitable share of operating and maintaining works of improvement on federal land in consideration of the benefits that accrue to nonfederal land.

Federal Costs.—The Federal Government pays the following costs:

- Technical assistance for planning and applying land-treatment measures on nonfederal land.
- A part of the cost, not to exceed the rate provided under other agricultural programs, for land-treatment measures.
- Installation of land-treatment measures on federal land.
- All construction allocated to flood prevention.
- Engineering and other services (including engineering services associated with the administration of contracts) allocated to (1) flood prevention, (2) agricultural water management, (3) water-quality management, and (4) fish and wildlife development and eligible public recreation development.
- Not more than 50 percent of the construction allocated to (1) agricultural water management and (2) fish and wildlife development or eligible public recreation development.
- Not more than 50 percent of the engineering and other installation services required for minimum basic facilities for fish and wildlife development or eligible public recreation development.
- Not more than 50 percent of landrights required for fish and wildlife development or eligible public recreation development.
- Administering contracts awarded by a federal agency.

Advances

After a watershed plan-EIS is approved, SCS may "advance" funds to the sponsoring organizations to preserve sites for future construction. Such advances must be repaid with interest before construction. They will be processed by FmHA, obligated and disbursed by SCS, and repaid to FmHA.

SCS may also advance funds to develop water supply for future municipal or industrial use up to 30 percent of the cost of any multiple-purpose reservoir. Repayment may

be deferred up to 10 years without interest. Local organizations must furnish assurance that such water supply will be used and must agree to a schedule of repayment before construction.

Loans

To help the local organization pay its share of the project cost, FmHA may make loans to the sponsoring local organization. A maximum loan of $10 million may be made to one project for a period up to 50 years at the federal long-term borrowing rate.

Carrying Out the Project

There's a job for everyone in carrying out a watershed project—the sponsoring local organizations; citizens of the community; local, state, and federal agencies; and public and private organizations and groups in the community. To carry out the project, everyone in the watershed must be fully informed about what is being done and why and what each group's responsibilities are. This calls for a continuing program of information and education.

Responsibilities of the Local Organizations

The major responsibilities are to:

- Acquire land, easements, and rights-of-way needed for structures or other improvements on private land. The local organization may acquire them by purchase or gift. The local organization is also responsible for removal, relocation, or replacement of bridges, roads, railroads, pipelines, buildings, fences, or wells, whether done by the local organization or by the owners.
- Let contracts for construction or request that SCS administer contracts. The local organization and SCS enter into an agreement covering each contract for construction (or for landrights for recreation or fish and wildlife development). This agreement is

the basis for obligating federal funds.
- Obtain agreements from landowners and operators to plan and apply soil and water conservation measures and provide assurance of the application of a high percentage of these land-treatment measures.
- Comply with state laws governing watershed improvements, water rights, or specifications for structures.

The local organization can either employ nonfederal professional engineers satisfactory to SCS or request that SCS engineers provide engineering services for installing structural measures. If the local organization uses nonfederal engineers, it will be reimbursed by SCS for all the costs allocated to flood prevention and agricultural water management and for half of the costs allocated to recreation or fish and wildlife development. The local organization must pay the entire cost allocated to municipal or industrial water-supply development.

Assistance From SCS

SCS gives technical assistance to landowners who plan and apply soil and water conservation measures on their farms and ranches or other rural land. Landowners receive this assistance through soil and water conservation districts. Additional technical assistance and some financial assistance may be given from funds appropriated under Public Law 566 only as they are required to solve identified problems in the watershed within the agreed-upon period for project installation.

SCS assistance includes—

- Making a soil survey from which the land can be classified according to its capability for use and needs for treatment.
- Helping landowners to plan the use and treatment of their land in accordance with this classification.
- Helping landowners to plan and apply soil and water conservation practices such as:
  - —Terraces, dams, diversions, waterways, contour farming, strip-cropping, and growing green-manure cover crops and other vegetation needed to protect the soil from wind and water erosion and to restore, improve, and maintain soil productivity.
  - —Seeding, sodding, or other vegetative land-stabilization measures on critically eroding areas.
  - —Irrigation, chiseling, subsoiling and pitting, contour furrowing, water spreading, drainage, wells, ponds, and other improvements to provide and conserve water for crop, forage, livestock, and fish and wildlife production.
  - —Stocking rates, reseeding, erosion control, and other practices necessary to restore and improve range and permanent pastures not in national

forests or managed in conjunction with national forests.
—Woodland-conservation practices that can be applied with general technical help.

- Cost sharing to install the most cost-effective practices to solve identified problems.

Assistance From the Forest Service

The Forest Service provides the specialized technical assistance that landowners need to apply the more difficult forestry practices. This assistance usually will be made available through the state forestry agency. It includes forest protection, distribution of planting stock, and other specialized technical aid in forest management.

The Forest Service gives necessary technical help with conservation measures needed to restore or improve privately owned rangeland within national forests. The Forest Service also gives this assistance on rangeland adjoining national forests and administered in conjunction with the forests under formal agreement with the owners or lessees.

Other Available Help

In addition to assistance under Public Law 566, aid is available from other federal, federal-state, and state programs dealing with land, water, plants, recreation, and fish and wildlife.

The Soil Conservation Service uses, and encourages other agencies to use, all help available under other federal legislation to speed the completion of watershed projects.

This help includes—

- Educational assistance from the cooperative Federal-State Extension Service.
- Cost sharing available under agricultural programs.
- Credit from the Farmers Home Administration.
- Farm-forestry assistance under the Cooperative Forest Management Act.
- Protection of forest areas from fire, insects, and diseases under cooperative programs authorized by the Clarke-McNary Act, Forest Pest Control Act, and White Pine Blister Rust Protection Act.
- Cost sharing under the Great Plains Conservation Program (Public Law 84–1021).
- Assistance in recreation and fish and wildlife development from the Fish and Wildlife Service, the National Park Service, and state recreation and fish and game agencies.
- Technical, cost-sharing, and credit assistance from the U.S. Department of Agriculture authorized by the Food and Agriculture Act of 1962 for income-producing recreation developments on rural land, the Cropland Retirement Program, and Resource Conservation and Development Projects.
- Protection and treatment of federal land in the watershed by land-managing agencies.

Maintaining the Project

Sponsoring local organizations are responsible for operating and maintaining all structures and developments on nonfederal land. A written agreement on maintenance is required before federal funds are made available for any part of the construction cost.

Structures and soil and water conservation measures on federal land are maintained by the agency administering the land.

Soil and water conservation measures on individual farms and ranches or other rural land are maintained by the owners and operators under agreements with their local soil and water conservation district. If the watershed is outside a soil and water conservation district, the local organization must make maintenance arrangements satisfactory to SCS for fulfilling this responsibility.

The local organization may charge fees for public recreation provided such fees do not produce revenues in excess of those required to amortize the local organization's initial investment and provide adequate operation and maintenance.

The local organization is required to establish a schedule of maximum admission or use fees that may be charged by private concessionaires.

Slightly revised April 1984

State Agencies Designated to Approve Applications for Assistance under Public Law 566

ALABAMA	State Soil and Water Conservation Committee
ALASKA	State Department of Natural Resources
ARIZONA	State Land Department
ARKANSAS	State Department of Commerce
CALIFORNIA	State Resource Conservation Commission
COLORADO	State Soil Conservation Board
CONNECTICUT	State Department of Environmental Protection
DELAWARE	The Governor
FLORIDA	State Soil and Water Advisory Committee
GEORGIA	State Soil and Water Conservation Committee
HAWAII	State Board of Land and Natural Resources
IDAHO	State Soil Conservation Commission
ILLINOIS	The Governor
INDIANA	State Department of Natural Resources
IOWA	State Department of Soil Conservation
KANSAS	State Watershed Review Committee
KENTUCKY	State Department for Natural Resources and Environmental Protection
LOUISIANA	State Soil and Water Conservation Committee
MAINE	State Soil and Water Conservation Commission
MARYLAND	State Soil Conservation Committee
MASSACHUSETTS	State Division of Water Resources
MICHIGAN	State Soil Conservation Committee
MINNESOTA	State Soil and Water Conservation Commission
MISSISSIPPI	State Soil and Water Conservation Commission
MISSOURI	The Governor
MONTANA	State Department of Natural Resources
NEBRASKA	State Natural Resources Commission
NEVADA	State Department of Conservation and Natural Resources
NEW HAMPSHIRE	State Soil Conservation Committee
NEW JERSEY	State Bureau of Water Resources Planning
NEW MEXICO	State Engineer
NEW YORK	State Department of Environmental Conservation
NORTH CAROLINA	State Soil and Water Commission
NORTH DAKOTA	State Soil Conservation Committee
OHIO	State Department of Natural Resources
OKLAHOMA	State Conservation Commission
OREGON	State Engineer
PENNSYLVANIA	Bureau of Soil and Water Conservation
RHODE ISLAND	State Department of Administration
SOUTH CAROLINA	State Water Resources Commission
SOUTH DAKOTA	State Department of Natural Resources Development
TENNESSEE	State Soil Conservation Committee
TEXAS	State Soil and Water Conservation Board
UTAH	State Soil Conservation Commission
VERMONT	State Agency of Environmental Conservation
VIRGINIA	State Soil and Water Conservation Commission
WASHINGTON	State Department of Ecology
WEST VIRGINIA	State Soil Conservation Committee
WISCONSIN	State Board of Soil and Water Conservation Districts
WYOMING	State Conservation Commission
PUERTO RICO	Secretary of Natural Resources, Puerto Rico

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